Surveying GPCR solubilisation conditions using surface plasmon resonance

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SUPPLEMENTARY TABLES AND FIGURES

Supplementary Table 1: GPCR solubilisation conditions tested (buffer, salt, additive 1, additive 2). Normalised 12G5 response for CXCR4 (CXCR4 activity), normalised 2D7 response for CCR5 (CCR5 activity). Normalised capture levels for CXCR4 and CCR5.

Buffer ID	BUFFER	SALT	ADD. 1	ADD. 2	CXCR4 activity	CCR5 activity	CXCR4 capture	CCR5 capture
1	100 mM HEPES	100 mM Sodium Chloride	1 M Ammonium sulfate	10% glycerol	1.13	0.77	1000	1400
2	100 mM HEPES	100 mM Sodium Chloride	15% PEG 400	10% glycerol	0.86	1.14	537	1168
3	100 mM HEPES	100 mM Sodium Chloride	15% PEG 1500	10% glycerol	0.87	1.05	1614	1441
4	100 mM HEPES	100 mM Sodium Chloride	10% PEG 4000	10% glycerol	0.66	1.02	1924	1477
5	100 mM HEPES	100 mM Sodium Chloride	10% PEG 6000	10% glycerol	0.85	0.96	1130	1256
6	100 mM HEPES	100 mM Sodium Chloride	15% PEG 8000	10% glycerol	0.03	0.53	435	798
7	100 mM HEPES	100 mM Sodium Chloride	10% 2-Propanol	10% glycerol	0	0.28	958	1059
8	100 mM HEPES	100 mM Sodium Chloride	1M Magnesium sulfate hydrate	10% glycerol	1.24	0.76	900	1061
9	100 mM HEPES	100 mM Ammonium sulfate	/	10% glycerol	0.9	0.98	1709	1259
10	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 400	10% glycerol	0.95	1.09	478	899
11	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 1500	10% glycerol	0.83	1	2320	1292
12	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 4000	10% glycerol	1.09	1.12	2376	1507
13	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 6000	10% glycerol	0.9	0.91	1658	1802
14	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 8000	10% glycerol	1.05	0.7	1901	1139
15	100 mM HEPES	100 mM Ammonium sulfate	10% 2-Propanol	10% glycerol	0.01	0.31	1217	1316
16	100 mM HEPES	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% glycerol	1.22	1.03	929	818
17	100 mM TRIS hydrochloride	100 mM Sodium Chloride	1 M Ammonium sulfate	10% glycerol	1.18	0.96	1558	1265
18	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 400	10% glycerol	0.83	0.91	706	1287
19	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 1500	10% glycerol	0.96	1.1	2409	1262

20	100 mM TRIS hydrochloride	100 mM Sodium Chloride	10% PEG 4000	10% glycerol	0.76	0.95	3786	1580
21	100 mM TRIS hydrochloride	100 mM Sodium Chloride	10% PEG 6000	10% glycerol	0.8	0.87	1603	1256
22	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 8000	10% glycerol	0.08	0.43	634	697
23	100 mM TRIS hydrochloride	100 mM Sodium Chloride	10% 2-Propanol	10% glycerol	0.04	0.24	894	1225
24	100 mM TRIS hydrochloride	100 mM Sodium Chloride	1M Magnesium sulfate hydrate	10% glycerol	1.16	1.01	910	828
25	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	/	10% glycerol	1.08	0.95	1506	1255
26	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 400	10% glycerol	1.2	1.1	431	867
27	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 1500	10% glycerol	1.09	1.1	2839	1279
28	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% PEG 4000	10% glycerol	1.11	0.92	3259	1961
29	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% PEG 6000	10% glycerol	1.02	0.89	1713	1738
30	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 8000	10% glycerol	1.09	0.61	1874	1793
31	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% 2-Propanol	10% glycerol	0.02	0.3	862	1150
32	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% glycerol	1.27	1.01	820	861
33	100 mM TRIS hydrochloride	100 mM Sodium Chloride	1 M Ammonium sulfate	10% sucrose	1.11	0.83	1400	1316
34	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 400	10% sucrose	0.79	0.83	637	1260
35	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 1500	10% sucrose	0.85	0.96	2600	1285
36	100 mM TRIS hydrochloride	100 mM Sodium Chloride	10% PEG 4000	10% sucrose	0.56	0.93	3621	1950
37	100 mM TRIS hydrochloride	100 mM Sodium Chloride	10% PEG 6000	10% sucrose	0.74	0.86	1877	2026
38	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 8000	10% sucrose	0.05	0.41	699	1066
39	100 mM TRIS hydrochloride	100 mM Sodium Chloride	10% 2-Propanol	10% sucrose	0.04	0.28	1028	1278
40	100 mM TRIS hydrochloride	100 mM Sodium Chloride	1M Magnesium sulfate hydrate	10% sucrose	1.19	0.87	583	1226
41	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	/	10% sucrose	1.11	0.89	1183	1516
42	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 400	10% sucrose	1.22	1.09	482	862

43	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 1500	10% sucrose	1.09	0.89	2931	1425
44	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% PEG 4000	10% sucrose	1.02	0.97	3215	1942
45	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% PEG 6000	10% sucrose	0.99	0.86	2130	1946
46	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 8000	10% sucrose	1.14	0.64	2194	1424
47	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% 2-Propanol	10% sucrose	0.02	0.35	767	1475
48	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% sucrose	1.16	0.94	752	1058
49	100 mM HEPES	100 mM Sodium Chloride	1 M Ammonium sulfate	10% sucrose	1.12	0.92	1262	1397
50	100 mM HEPES	100 mM Sodium Chloride	15% PEG 400	10% sucrose	0.77	1.05	611	1107
51	100 mM HEPES	100 mM Sodium Chloride	15% PEG 1500	10% sucrose	0.8	1.11	1606	1023
52	100 mM HEPES	100 mM Sodium Chloride	10% PEG 4000	10% sucrose	0.48	1.02	2016	1961
53	100 mM HEPES	100 mM Sodium Chloride	10% PEG 6000	10% sucrose	0.78	0.93	1425	1603
54	100 mM HEPES	100 mM Sodium Chloride	15% PEG 8000	10% sucrose	0.09	0.38	521	931
55	100 mM HEPES	100 mM Sodium Chloride	10% 2-Propanol	10% sucrose	0	0.3	934	1051
56	100 mM HEPES	100 mM Sodium Chloride	1M Magnesium sulfate hydrate	10% sucrose	1.28	0.98	690	1029
57	100 mM HEPES	100 mM Ammonium sulfate	/	10% sucrose	1	0.93	999	1383
58	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 400	10% sucrose	1.1	1.02	369	1059
59	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 1500	10% sucrose	0.66	0.99	2182	1485
60	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 4000	10% sucrose	0.96	0.98	1985	1638
61	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 6000	10% sucrose	0.92	0.94	1424	1713
62	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 8000	10% sucrose	0.62	0.48	2372	1965
63	100 mM HEPES	100 mM Ammonium sulfate	10% 2-Propanol	10% sucrose	0	0.33	1075	1318
64	100 mM HEPES	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% sucrose	1.2	0.98	619	1044
65	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 4000	10% glycerol	0.57	0.9	2277	876

66	100 mM TRIS hydrochloride	100 mM Sodium Chloride	12% PEG 6000	10% glycerol	0.64	0.6	919	1534
67	100 mM TRIS hydrochloride	100 mM Sodium Chloride	20% PEG 8000	10% glycerol	0	0.13	345	463
68	100 mM TRIS hydrochloride	100 mM Calcium chloride dihydrate	15% PEG 1500	10% glycerol	0.31	1.06	1079	2031
69	100 mM TRIS hydrochloride	100 mM Calcium chloride dihydrate	15% PEG 4000	10% glycerol	0.31	0.89	89	806
70	100 mM TRIS hydrochloride	100 mM Calcium chloride dihydrate	12% PEG 6000	10% glycerol	0.24	0.56	436	3145
71	100 mM TRIS hydrochloride	100 mM Calcium chloride dihydrate	20% PEG 8000	10% glycerol	0	0.18	372	456
72	100 mM TRIS hydrochloride	100 mM Magnesium chloride hexahydrate	15% PEG 1500	10% glycerol	0.51	1.07	1254	1739
73	100 mM TRIS hydrochloride	100 mM Magnesium chloride hexahydrate	15% PEG 4000	10% glycerol	0.39	0.83	147	1507
74	100 mM TRIS hydrochloride	100 mM Magnesium chloride hexahydrate	12% PEG 6000	10% glycerol	0.63	0.68	618	2305
75	100 mM TRIS hydrochloride	100 mM Magnesium chloride hexahydrate	20% PEG 8000	10% glycerol	0	0.06	421	520
76	100 mM TRIS hydrochloride	100 mM Zinc acetate dihydrate	15% PEG 1500	10% glycerol	0	0.8	544	106
77	100 mM TRIS hydrochloride	100 mM Zinc acetate dihydrate	15% PEG 4000	10% glycerol	0	0.72	54	187
78	100 mM TRIS hydrochloride	100 mM Zinc acetate dihydrate	12% PEG 6000	10% glycerol	0	0.5	511	368
79	100 mM TRIS hydrochloride	100 mM Zinc acetate dihydrate	20% PEG 8000	10% glycerol	0	0.1	284	622
80	100 mM TRIS hydrochloride	100 mM Potassium phosphate monobasic	15% PEG 1500	10% glycerol	1.26	1.05	1414	1424
81	100 mM TRIS hydrochloride	100 mM Potassium phosphate monobasic	15% PEG 4000	10% glycerol	1.11	0.92	1372	1508
82	100 mM TRIS hydrochloride	100 mM Potassium phosphate monobasic	12% PEG 6000	10% glycerol	1.05	0.77	1404	2101
83	100 mM TRIS hydrochloride	100 mM Potassium phosphate monobasic	20% PEG 8000	10% glycerol	0.29	0.19	556	534
84	100 mM TRIS hydrochloride	100 mM Sodium citrate tribasic dihydrate	15% PEG 1500	10% glycerol	1.18	1.03	2118	1853

85	100 mM TRIS hydrochloride	100 mM Sodium citrate tribasic dihydrate	15% PEG 4000	10% glycerol	1.06	0.94	1505	1288
86	100 mM TRIS hydrochloride	100 mM Sodium citrate tribasic dihydrate	12% PEG 6000	10% glycerol	0.66	0.68	1985	1992
87	100 mM TRIS hydrochloride	100 mM Sodium citrate tribasic dihydrate	20% PEG 8000	10% glycerol	0	0.28	366	449
88	100 mM TRIS hydrochloride	100 mM Lithium sulfate monohydrate	15% PEG 1500	10% glycerol	1.18	1.11	3266	1208
89	100 mM TRIS hydrochloride	100 mM Lithium sulfate monohydrate	15% PEG 4000	10% glycerol	1.12	1.05	1186	1946
90	100 mM TRIS hydrochloride	100 mM Lithium sulfate monohydrate	12% PEG 6000	10% glycerol	0.75	0.65	3295	2808
91	100 mM TRIS hydrochloride	100 mM Lithium sulfate monohydrate	20% PEG 8000	10% glycerol	0	0.27	431	584
92	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 4000	10% glycerol	1.04	0.94	1766	1559
93	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	12% PEG 6000	10% glycerol	0.76	0.67	3604	1846
94	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	20% PEG 8000	10% glycerol	0	0.23	369	797
95	100 mM TRIS hydrochloride	/	15% PEG 1500	10% glycerol	0.51	1.13	1415	1177
96	100 mM TRIS hydrochloride	/	15% PEG 4000	10% glycerol	0.51	0.9	417	695
97	100 mM TRIS hydrochloride	/	12% PEG 6000	10% glycerol	0.63	0.71	2682	2013
98	100 mM TRIS hydrochloride	/	20% PEG 8000	10% glycerol	0	0.12	365	419
99	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 1500	/	1.04	1.04	3035	2036
100	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 4000	/	0.99	1	1969	2114
101	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	12% PEG 6000	/	0.97	0.59	3036	3146
102	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	20% PEG 8000	/	0.91	0.71	1335	1002
Control	20 mM TRIS hydrochloride	100 mM Ammonium sulfate	(5 mM $MgCl_2$, 1 mM $CaCl_2$ for CXCR4 only)	10% glycerol	1.00 (±0.08)	1.00 (±0.01)	1141 (±265)	981 (±161)

Supplementary Table 2: Solubilisation buffer conditions, with results - normalised 12G5 response for CXCR4. Screen1 – 12G5 screened against CXCR4 solubilised with 0.45% of detergent. Screen 2 – 12G5 screened against CXCR4 solubilised with a mixture containing 0.43% of n-Tridecyl-ß-D-maltopyranoside mixed with 0.43 % of each detergent for conditions 1-100. Screen3 – 12G5 screened against CXCR4 solubilised with a mixture containing 0.41% of n-Tridecyl-ß-D-maltopyranoside, 0.41 % of Big CHAP mixed with 0.41 % of each detergent. Normalised capture levels for screens 1, 2 and 3.

Condition ID	Detergent	Screen 1	Screen 2	Screen 3	Capture s1	Capture s2	Capture s3
1	ANAMEG® -7	0.00	0.24	0.06	201	577	1268
2	ANAPOE®-20	0.01	0.90	0.67	252	478	867
3	ANAPOE®-35	0.00	1.17	1.00	179	411	805
4	ANAPOE®-58	0.05	1.24	1.08	237	424	870
5	ANAPOE®-80	0.00	0.92	0.64	157	443	971
6	ANAPOE®-C10E6	0.00	0.02	0.00	1026	651	1186
7	ANAPOE®-C10E9	0.00	0.06	0.06	622	513	892
8	ANAPOE®-C12E9	0.01	0.09	0.14	675	475	904
9	ANAPOE®-C12E8	0.00	0.11	0.16	675	437	846
10	ANAPOE®-C12E10	0.01	0.13	0.11	779	527	990
11	ANAPOE®-C13E8	0.00	0.04	0.01	763	450	915
12	ANAPOE®-X-100	0.01	0.10	0.02	1062	503	1096
13	ANAPOE®-X-114	0.00	0.58	0.17	494	456	1033
14	ANAPOE®-X-305	0.01	1.34	0.98	157	442	703
15	ANAPOE®-X-405	0.00	1.37	1.04	139	388	786
16	ANZERGENT® 3-8	0.00	1.25	0.82	160	448	834
17	ANZERGENT® 3-10	0.00	0.08	0.05	193	538	1053
18	ANZERGENT® 3-12	0.02	0.11	0.00	794	600	1251
19	ANZERGENT® 3-14	0.02	0.04	0.00	782	447	1044
20	Big CHAP	0.03	1.61	0.61	193	508	855
21	Big CHAP, deoxy	0.67	1.60	0.43	587	513	845
22	CHAPS	0.78	1.19	0.32	527	490	826
23	CHAPSO	0.81	1.06	0.33	606	486	947
24	Deoxycholic acid, sodium salt	0.00	0.56	0.27	16	431	898
25	Sodium cholate	0.58	1.18	0.56	590	506	776
26	CYCLOFOS™-2	0.01	1.38	0.84	242	504	868
27	CYCLOFOS™-3	0.00	1.35	0.72	189	495	825
28	CYCLOFOS™-4	0.03	1.06	0.27	217	534	913
29	CYCLOFOS™-5	0.04	0.42	0.11	482	514	858
30	CYCLOFOS™-6	0.01	0.19	0.09	521	510	801
31	CYCLOFOS™-7	0.01	0.09	0.02	521	530	940
32	CYGLU®-3	0.06	0.74	0.05	204	602	1418
33	CYMAL®-1	0.00	1.39	0.85	200	505	970
34	CYMAL®-2	0.00	1.40	0.64	219	529	893
35	CYMAL®-3	0.00	1.20	0.29	193	524	1026
36	CYMAL®-4	0.62	0.64	0.16	743	584	1126
37	CYMAL®-5	0.05	0.41	0.09	836	555	1058
38	CYMAL®-6	0.18	0.44	0.21	817	543	1098
39	CYMAL®-7	0.78	0.71	0.39	631	498	952
40	2,6-Dimethyl-4-heptyl-b-D-maltopyranoside	0.00	0.28	0.17	578	513	803
41	2-Propyl-1-pentyl maltopyranoside	0.00	1.46	0.55	216	492	881
42	FOS-CHOLINE®-8	0.00	1.30	0.61	230	504	860
43	FOS-CHOLINE®-9	0.00	1.01	0.18	203	505	834
44	FOS-CHOLINE®-10	0.04	0.31	0.05	592	563	973
45	FOS-CHOLINE®-11	0.01	0.12	0.02	680	523	981
46	FOS-CHOLINE®-12	0.01	0.17	0.09	596	524	892
47	FOS-CHOLINE®-13	0.00	0.30	0.17	594	483	952

48	FOS-CHOLINE®-14	0.01	0.83	0.47	540	472	791
49	FOS-CHOLINE®-15	0.09	1.23	0.80	494	460	791
50	FOS-CHOLINE®-16	0.19	1.08	1.06	556	511	791
51	FOS-CHOLINE®-ISO-9	0.00	1.41	0.76	208	470	720
52	FOS-CHOLINE®-ISO-11	0.00	0.97	0.26	276	556	810
53	FOS-CHOLINE®-UNSAT-11-10	0.00	0.19	0.03	624	525	881
54	FOS-MEA®-8	0.01	1.03	0.40	259	550	754
55	FOS-MEA®-10	0.04	0.19	0.09	717	529	856
56	MEGA-8	0.02	0.83	0.19	263	545	1178
57	PMAL™-C8	0.00	1.13	0.40	254	766	1680
58	PMAL C10	0.00	1.22	0.62	516	1043	917
59	n-Hexyl-ß-D-glucopyranoside	0.00	1.33	0.57	242	512	1085
60	n-Heptyl-ß-D-glucopyranoside	0.01	1.28	0.26	305	608	1043
61	n-Octyl-ß-D-glucopyranoside	0.07	0.51	0.05	288	573	1261
62	n-Nonyl-ß-D-glucopyranoside	0.04	0.37	0.01	979	630	1657
63	n-Hexyl-ß-D-maltopyranoside	0.00	1.40	0.71	224	503	945
64	n-Octyl-ß-D-maltopyranoside	0.02	1.27	0.20	257	560	1020
65	n-Nonyl-ß-D-maltopyranoside	0.69	0.56	0.13	624	519	1163
66	n-Decyl-ß-D-maltopyranoside	0.08	0.35	0.16	691	540	1096
67	n-Decyl-a-D-maltopyranoside	0.32	0.60	0.16	636	545	1001
68	n-Undecyl-a-D-maltopyranoside	0.42	0.66	0.27	647	539	1108
69	n-Undecyl-ß-D-maltopyranoside	0.37	0.52	0.23	632	487	1033
70	n-Dodecyl-a-D-maltopyranoside	0.86	0.77	0.31	654	505	921
71	n-Tridecyl-ß-D-maltopyranoside	1.11	1.02	0.60	515	450	913
72	n-Tetradecyl-ß-D-maltopyranoside	0.00	1.54	0.77	228	450	917
73	n-Heptyl-ß-D-thioglucopyranoside	0.00	0.37	0.03	253	522	1263
74	n-Octyl-ß-D-thiomaltopyranoside	0.86	0.64	0.12	510	525	1057
75	n-Nonyl-ß-D-thiomaltopyranoside	0.09	0.49	0.14	694	482	1101
76	n-Decyl-ß-D-thiomaltopyranoside	0.18	0.66	0.16	641	504	945
77	n-Undecyl-ß-D-thiomaltopyranoside	0.57	0.72	0.27	572	452	1165
78	n-Dodecyl-ß-D-thiomaltopyranoside	0.93	0.92	0.43	525	446	966
79	n-Decyl-N,N-dimethylglycine	0.01	0.14	0.00	564	519	1190
80	n-Dodecyl-N,N-dimethylglycine	0.04	0.21	0.00	811	511	1325
81	N-dodecyl B-D maltoside	0.84	0.83	0.41	484	332	947
82	Sodium dodecanoyl sarcosine	0.00	0.01	0.00	45	853	700
83	Hexaethylene glycol monooctyl ether (C8E6)	0.00	0.10	0.00	470	499	848
84	Octaethylene glycol monododecyl ether (C12E8)	0.05	0.14	0.00	552	732	867
85	Pentaethylene glycol monodecyl ether (C10E5)	0.02	0.10	0.00	764	475	1009
86	Tetraethylene glycol monooctyl ether (C8E4)	0.04	0.12	0.00	773	878	1096
87	Sucrose monododecanoate	0.36	0.62	0.18	645	435	1115
88	Dimethyldecylphosphine oxide	0.02	0.11	0.00	1193	902	1607
89	n-Tetradecyl-N,N-dimethylamine-N-oxide (TDAO)	0.00	0.32	0.00	458	392	1109
90	n-Dodecyl-N,N-dimethylamine-N-oxide (DDAO	0.13	0.47	0.00	523	619	1200
91	FosCholine ISO – 11-6U	0.00	1.16	0.19	250	500	818
92	Fosfen 9	0.04	0.04	0.00	761	695	1263
93	CYPFOS 3	0.00	1.39	0.51	241	466	821
94	NPOLFOS	0.00	0.07	0.32	412	922	845
95	C-dodecafos	0.02	1.30	0.12	223	442	883
96	Hexadecyl tri methylamine chloride	0.23	0.00	0.00	178	0	466
97	Decyl trimethylamine chloride	0.03	0.07	0.00	331	526	536
98	MNG	1.28	1.46	0.50	521	472	772
99	CDC	1.28	1.20	0.45	522	331	748
100	GDN	0.18	1.77	1.05	436	509	690
101	CDC	1.33	--	--	515		
102	Lipids:Buffer 1:1	0.00	--	--	235		

103	CDC: buffer 1:1	1.25	--	--	538		
104	buffer	0.00	--	--	288		
105	Lipids:T323 1:1	--	1.46	--	--	474	
106	Lipids:T323:buffer 1:1:1	--	1.49	--	--	422	--
107	lipids:buffer 1:2	--	0.00	--	--	299	--
108	T323:buffer 1:2	--	0.92	--		451	
109	T323:lipids:buffer 1:1:2	--	--	0.59			809
110	B310:lipids:buffer 1:1:2	--	--	0.71			438
111	T323:B310:lipids:buffer 1:1:1	--	--	0.53	--		861
112	T323:B310:buffer 1:1:2	--	--	0.46	--	--	770
Control	CDC	1.00(±0.01)	1.01 (±0.09)	1.00 (±0.06)	970 (±60)	965 (±153)	1037 (±46)

Supplementary Table 3: Solubilisation buffer conditions, normalised 2D7 response for CCR5. Screen1 – 2D7 screened against CCR5 solubilised with 0.45% of detergent. Screen 2 – 2D7 screened against CCR5 solubilised with a mixture containing 0.43% of Lauryl Maltose Neopentyl Glycol (MNG) mixed with 0.43% of each detergent. Screen3 – 2D7 screened against CCR5solubilised with a mixture containing 0.41% of Lauryl Maltose Neopentyl Glycol, 0.41% of GDN mixed with 0.41% of each detergent. Normalised capture levels for screens 1, 2 and 3.

Condition ID	Detergent	Screen 1	Screen 2	Screen 3	Capture s1	Capture s2	Capture s3
1	ANAMEG® -7	0.00	0.40	0.26	161	2379	1645
2	ANAPOE®-20	0.23	0.65	0.75	539	1068	640
3	ANAPOE®-35	0.00	1.12	0.96	203	688	552
4	ANAPOE®-58	0.09	0.93	0.80	576	803	649
5	ANAPOE®-80	0.00	0.66	0.77	64	1701	627
6	ANAPOE®-C10E6	0.00	0.10	0.09	1584	1518	1480
7	ANAPOE®-C10E9	0.08	0.16	0.12	1220	1848	1231
8	ANAPOE®-C12E9	0.24	0.35	0.40	1192	1363	764
9	ANAPOE®-C12E8	0.29	0.34	0.39	1067	1080	829
10	ANAPOE®-C12E10	0.20	0.43	0.41	1216	1239	989
11	ANAPOE®-C13E8	0.06	0.17	0.10	1201	1234	1150
12	ANAPOE®-X-100	0.12	0.25	0.14	1593	1513	1335
13	ANAPOE®-X-114	0.00	0.25	0.35	395	2446	1297
14	ANAPOE®-X-305	0.00	0.92	0.96	109	876	474
15	ANAPOE®-X-405	0.00	1.19	1.10	68	762	465
16	ANZERGENT® 3-8	0.00	0.58	0.87	184	1934	788
17	ANZERGENT® 3-10	0.00	0.57	0.40	199	1966	1147
18	ANZERGENT® 3-12	0.00	0.04	0.03	1755	1753	1752
19	ANZERGENT® 3-14	0.00	0.02	0.00	1388	1743	1737
20	Big CHAP	0.00	0.76	0.96	197	1301	649
21	Big CHAP, deoxy	0.05	0.44	0.82	2098	2426	855
22	CHAPS	0.68	0.54	0.79	1676	1443	765
23	CHAPSO	0.66	0.57	0.87	1796	1617	652
24	Deoxycholic acid, sodium salt	0.00	0.15	0.73	1617	1393	607
25	Sodium cholate	0.33	0.73	0.79	1093	868	712
26	CYCLOFOS™-2	0.00	0.86	0.95	150	1310	584
27	CYCLOFOS™-3	0.00	0.63	0.99	140	1451	514
28	CYCLOFOS™-4	0.00	0.71	0.84	128	1574	881
29	CYCLOFOS™-5	0.08	0.44	0.56	1180	2266	1322
30	CYCLOFOS™-6	0.07	0.32	0.45	1276	2182	1653
31	CYCLOFOS™-7	0.07	0.32	0.45	1108	2514	1485
32	CYGLU®-3	0.00	0.52	0.60	198	2488	1465
33	CYMAL®-1	0.00	0.78	1.12	110	1471	778
34	CYMAL®-2	0.00	0.82	0.97	145	1510	801

35	CYMAL®-3	0.00	0.67	1.04	115	1983	829
36	CYMAL®-4	0.65	0.65	0.95	1697	2152	1022
37	CYMAL®-5	0.18	0.55	0.79	2273	2376	1066
38	CYMAL®-6	0.35	0.57	0.70	2267	2193	1164
39	CYMAL®-7	0.43	0.57	0.82	2415	2091	923
40	2,6-Dimethyl-4-heptyl-b-D-maltopyranoside	0.00	0.25	0.22	1117	1917	1398
41	2-Propyl-1-pentyl maltopyranoside	0.00	0.90	1.06	204	1699	774
42	FOS-CHOLINE®-8	0.00	0.86	1.10	233	1444	701
43	FOS-CHOLINE®-9	0.00	0.82	0.86	158	1427	782
44	FOS-CHOLINE®-10	0.00	0.42	0.43	1270	2024	1271
45	FOS-CHOLINE®-11	0.07	0.28	0.24	1208	2120	1711
46	FOS-CHOLINE®-12	0.00	0.30	0.22	1223	2116	1366
47	FOS-CHOLINE®-13	0.00	0.26	0.26	1105	2077	1341
48	FOS-CHOLINE®-14	0.00	0.25	0.25	1056	1558	1333
49	FOS-CHOLINE®-15	0.00	0.32	0.25	636	949	996
50	FOS-CHOLINE®-16	0.00	0.22	0.39	877	978	783
51	FOS-CHOLINE®-ISO-9	0.00	0.93	1.21	257	1288	551
52	FOS-CHOLINE®-ISO-11	0.00	0.64	0.98	217	1617	637
53	FOS-CHOLINE®-UNSAT-11-10	0.00	0.42	0.47	1060	1866	1078
54	FOS-MEA®-8	0.00	0.65	1.12	211	1747	694
55	FOS-MEA®-10	0.08	0.58	0.47	1398	1114	1473
56	MEGA-8	0.00	0.85	1.11	219	1410	947
57	PMAL™-C8	0.00	1.06	1.33	188	1101	895
58	PMAL C10	0.00	1.03	1.33	274	1260	769
59	n-Hexyl-ß-D-glucopyranoside	0.00	0.72	1.17	168	1461	859
60	n-Heptyl-ß-D-glucopyranoside	0.00	0.68	1.07	159	2054	985
61	n-Octyl-ß-D-glucopyranoside	0.00	0.54	0.66	257	1834	1133
62	n-Nonyl-ß-D-glucopyranoside	0.00	0.40	0.56	1961	1812	1297
63	n-Hexyl-ß-D-maltopyranoside	0.00	0.77	1.25	165	1867	803
64	n-Octyl-ß-D-maltopyranoside	0.00	0.89	1.02	145	1507	869
65	n-Nonyl-ß-D-maltopyranoside	0.19	0.70	0.92	1735	1693	1130
66	n-Decyl-ß-D-maltopyranoside	0.11	0.71	0.72	2140	1620	1248
67	n-Decyl-a-D-maltopyranoside	0.00	0.64	0.90	2004	1750	1011
68	n-Undecyl-a-D-maltopyranoside	0.14	0.75	0.92	2352	1658	1128
69	n-Undecyl-ß-D-maltopyranoside	0.39	0.62	0.97	2178	2050	941
70	n-Dodecyl-a-D-maltopyranoside	0.43	0.76	1.03	2635	1911	890
71	n-Tridecyl-ß-D-maltopyranoside	0.56	0.71	1.01	2072	1915	859
72	n-Tetradecyl-ß-D-maltopyranoside	0.21	0.96	1.30	370	1580	694
73	n-Heptyl-ß-D-thioglucopyranoside	0.00	0.91	0.81	382	1215	880
74	n-Octyl-ß-D-thiomaltopyranoside	0.49	0.95	0.93	1574	1314	963
75	n-Nonyl-ß-D-thiomaltopyranoside	0.14	0.81	0.80	2178	1492	1016
76	n-Decyl-ß-D-thiomaltopyranoside	0.40	0.77	0.82	2178	1489	825
77	n-Undecyl-ß-D-thiomaltopyranoside	0.45	0.83	0.85	2280	1331	790
78	n-Dodecyl-ß-D-thiomaltopyranoside	0.63	0.84	0.96	1857	1246	735
79	n-Decyl-N,N-dimethylglycine	0.00	0.37	0.27	1197	2049	1152
80	n-Dodecyl-N,N-dimethylglycine	0.00	0.13	0.10	1676	1318	1335
81	N-dodecyl B-D maltoside	0.61	0.48	0.98	1591	1253	809
82	Sodium dodecanoyl sarcosine	0.00	0.00	0.51	718	569	655
83	Hexaethylene glycol monooctyl ether (C8E6)	0.00	0.26	0.27	1157	1188	1019
84	Octaethylene glycol monododecyl ether (C12E8)	0.12	0.25	0.42	1439	1021	800
85	Pentaethylene glycol monodecyl ether (C10E5)	0.00	0.23	0.19	1470	1036	1049
86	Tetraethylene glycol monooctyl ether (C8E4)	0.00	0.07	0.16	1892	1200	1151
87	Sucrose monododecanoate	0.41	0.84	0.94	2278	1577	917
88	Dimethyldecylphosphine oxide	0.00	0.08	0.14	2534	1213	1123
89	n-Tetradecyl-N,N-dimethylamine-N-oxide (TDAO)	0.00	0.00	0.17	4039	1014	1128

90	n-Dodecyl-N,N-dimethylamine-N-oxide (DDAO	0.00	0.03	0.09	2382	1750	1837
91	FosCholine ISO – 11-6U	0.00	0.75	0.78	131	1324	917
92	Fosfen 9	0.00	0.31	0.43	1405	1237	1292
93	CYPFOS 3	0.00	0.68	1.09	155	1292	684
94	NPOLFOS	0.00	0.82	0.93	178	1331	780
95	C-dodecafos	0.00	0.76	1.01	128	1898	829
96	Hexadecyl tri methylamine chloride	0.00	0.08	0.53	1219	799	390
97	Decyl trimethylamine chloride	0.00	0.55	0.29	486	1454	824
98	MNG	0.87	1.16	0.99	1506	1166	848
99	CDC	0.94	0.69	1.23	771	907	820
100	CDC	0.96	1.00	0.93	702	903	767
101	GDN	0.51	1.26	1.17	338	716	1063
102	lipids	0.00	--	--	309		
103	CDC	0.94	--	--	763		
104	only cells	0.00	--	--	182		
105	lipids	--	0.16	--	--	882	
106	MNG	--	0.87	--	--	1191	--
107	only cells	--	0.00	--	--	615	--
108	MNG:lipids:buffer 1:1:2	--	--	0.59	--	--	695
109	GDN:lipids:buffer 1:1:2	--	--	0.86	--	--	839
110	MNG:GDN:lipids:buffer 1:1:1:2	--	--	0.95	--	--	789
111	MNG:GDN:buffer 1:1:2	--	--	0.96	--	--	951
Control	CDC	1.00(±0.02)	1.00 (±0.03)	1.00 (±0.05)	1014 (±111)	1021 (±72)	1098 (±98)

Supplementary Table 4: Comparison of top 10 detergents activity levels for CXCR4 and CCR5 receptor solubilisations.

ID	CXCR4	CCR5
22	CHAPS	CHAPS
23	CHAPSO	CHAPSO
36	-	CYMAL®-4
39	CYMAL®-7	-
65	n-Nonyl-ß-D-maltopyranoside	-
70	n-Dodecyl-a-D-maltopyranoside	-
71	n-Tridecyl-ß-D-maltopyranoside	n-Tridecyl-ß-D-maltopyranoside
74	n-Octyl-ß-D-thiomaltopyranoside	n-Octyl-ß-D-thiomaltopyranoside
77	-	n-Undecyl-ß-D-thiomaltopyranoside
78	n-Dodecyl-ß-D-thiomaltopyranoside	n-Dodecyl-ß-D-thiomaltopyranoside
81	N-dodecyl B-D maltoside	N-dodecyl B-D maltoside

98	MNG	MNG
101	-	GDN

Supplementary Table 5. CCR5 solubilisation detergent confirmation. Proportion (%) of each detergent (MNG, GDN, T315, Anapoe-35) and amount of lipid (mM) in detergent mixture used for solubilisation of CCR5. Normalised response of 2D7 antibody, normalised capture level. Control: 0.5%DDM/0.1%CHS/0.5%CHAPS, 0.25 mM Lipids.

Condition ID	MNG (%)	GDN (%)	T315 (%)	Anapoe-35 (%)	Lipids (mM)	Normalised Response (mAb)	Capture
1	0.33	0.33	0.00	0.00	0.16	0.84	482
2	0.25	0.25	0.00	0.00	0.25	0.90	478
3	0.50	0.25	0.00	0.00	0.13	0.88	537
4	0.25	0.50	0.00	0.00	0.13	0.83	462
5	0.40	0.40	0.00	0.00	0.10	0.88	482
6	0.50	0.50	0.00	0.00	0.00	0.91	492
7	0.67	0.33	0.00	0.00	0.00	0.80	513
8	0.33	0.67	0.00	0.00	0.00	0.88	487
9	0.00	0.50	0.00	0.00	0.25	0.32	209
10	0.00	0.67	0.00	0.00	0.17	0.30	245
11	0.00	0.33	0.00	0.00	0.33	0.19	196
12	0.17	0.17	0.00	0.00	0.33	0.93	435
13	0.00	0.00	0.50	0.00	0.25	0.85	525
14	0.00	0.33	0.33	0.00	0.17	0.85	521
15	0.40	0.20	0.00	0.00	0.20	0.93	558
16	0.20	0.40	0.00	0.00	0.20	0.85	461
17	0.25	0.25	0.25	0.00	0.13	0.87	582
18	0.33	0.00	0.33	0.00	0.17	0.83	651
19	1.00	0.00	0.00	0.00	0.00	0.70	1004
20	0.50	0.00	0.00	0.00	0.00	0.73	988
21	0.66	0.00	0.00	0.00	0.00	0.71	1012
22	0.75	0.00	0.00	0.00	0.00	0.71	1024
23	0.80	0.00	0.00	0.00	0.00	0.69	1032
24	0.33	0.00	0.00	0.00	0.00	0.77	993
25	0.25	0.00	0.00	0.00	0.00	0.79	954
26	0.20	0.00	0.00	0.00	0.00	0.80	946
27	1.00	0.00	0.00	0.00	0.00	0.69	1055
28	0.50	0.00	0.00	0.00	0.25	0.82	973
29	0.67	0.00	0.00	0.00	0.17	0.78	1009
30	0.75	0.00	0.00	0.00	0.13	0.76	996
31	0.80	0.00	0.00	0.00	0.10	0.74	1032
32	0.33	0.00	0.00	0.00	0.33	0.88	957
33	0.25	0.00	0.00	0.00	0.38	0.93	928
34	0.20	0.00	0.00	0.00	0.40	0.94	903
35	0.00	0.00	0.00	0.00	0.50	0.00	125
36	0.00	0.00	0.00	0.00	0.25	0.00	99
37	0.00	0.00	0.00	0.00	0.17	0.00	146
38	0.00	0.00	0.00	0.00	0.13	0.00	113
39	0.00	0.00	0.00	0.00	0.10	0.00	98
40	0.00	0.00	0.00	0.00	0.33	0.00	146
41	0.00	0.00	0.00	0.00	0.38	0.00	115
42	0.00	0.00	0.00	0.00	0.40	0.00	93
43	0.00	0.00	0.00	0.00	0.00	0.00	149
44	0.33	0.00	0.00	0.33	0.17	0.64	825
45	0.25	0.00	0.00	0.25	0.25	0.69	874

46	0.50	0.00	0.00	0.25	0.13	0.96	918
47	0.25	0.00	0.00	0.50	0.13	0.64	805
48	0.40	0.00	0.00	0.40	0.10	0.74	887
49	0.50	0.00	0.00	0.50	0.00	0.82	807
50	0.67	0.00	0.00	0.33	0.00	0.82	898
51	0.33	0.00	0.00	0.67	0.00	0.54	874
52	0.67	0.00	0.00	0.00	0.17	0.81	1548
53	0.00	0.00	0.00	0.50	0.25	0.14	262
54	0.00	0.00	0.00	0.67	0.17	0.13	260
55	0.00	0.00	0.00	0.33	0.33	0.14	233
56	0.17	0.00	0.00	0.17	0.33	0.98	782
57	0.40	0.00	0.00	0.20	0.20	0.94	956
58	0.20	0.00	0.00	0.40	0.20	0.56	865
control						1.00 (±0.01)	1000 (± 238)

Supplementary Table 6. CXCR4 solubilisation detergent confirmation. Proportion of each detergent (T323, B310, MNG) and amount of lipid (mM) in detergent mixture used for solubilisation of CXCR4. Normalised response of 12G5 antibody, normalised capture level. Control: 0.33%DDM/0.07%CHS/0.33%CHAPS, 0.33 mM Lipids.

{ LINK Excel.Sheet.12 "D:\\ProjectsNPC\\ccr5cxcr4detergent screens analysis\\PAPER\\fixed cxcr4 table.xlsx" Sheet1!R1C15:R67C21 \a \f 4 \h **}{** LINK Excel.Sheet.12 Book1 Sheet1!R1C1:R67C7 \a \f 4 \h **}**

Condition ID	T323 (%)	B310 (%)	MNG (%)	lipids (mM)	Normalised response (mAb)	Capture
1	0.33	0.33	0.00	0.16	0.90	1125
2	0.25	0.25	0.00	0.25	1.04	1149
3	0.25	0.25	0.00	0.00	0.82	1124
4	0.00	0.25	0.00	0.25	0.67	687
5	0.50	0.25	0.00	0.13	0.89	1143
6	0.25	0.50	0.00	0.13	0.56	988
7	0.40	0.40	0.00	0.10	0.86	1069
8	0.50	0.50	0.00	0.00	0.74	1069
9	0.67	0.33	0.00	0.00	0.68	962
10	0.33	0.67	0.00	0.00	0.46	910
11	0.50	0.25	0.00	0.00	0.76	918
12	0.67	0.00	0.00	0.17	0.56	802
13	0.33	0.00	0.00	0.33	0.96	855
14	0.00	0.50	0.00	0.25	0.61	682
15	0.00	0.67	0.00	0.17	0.49	584
16	0.00	0.33	0.00	0.33	0.67	560
17	0.17	0.17	0.00	0.33	1.12	878
18	0.17	0.17	0.00	0.00	0.94	1248
19	0.00	0.17	0.00	0.33	0.40	369
20	0.17	0.00	0.00	0.33	1.06	1074
21	0.00	0.33	0.00	0.16	0.59	869
22	0.40	0.20	0.00	0.20	0.96	870
23	0.20	0.40	0.00	0.10	0.74	757
24	0.50	0.00	0.00	0.00	0.45	984
25	0.33	0.00	0.00	0.00	0.56	1057
26	0.20	0.00	0.00	0.00	0.66	958
27	1.00	0.00	0.00	0.00	0.33	916
28	0.50	0.00	0.00	0.25	0.76	1021

29	0.33	0.00	0.00	0.16	0.93	914
30	0.20	0.00	0.00	0.10	1.08	953
31	0.00	1.00	0.00	0.00	0.36	698
32	0.00	0.50	0.00	0.00	0.47	666
33	0.00	0.33	0.00	0.00	0.55	640
34	0.00	0.20	0.00	0.00	0.54	778
35	0.00	0.33	0.00	0.33	0.66	674
36	0.00	0.20	0.00	0.10	0.46	365
37	0.00	0.00	0.00	0.50	0.00	156
38	0.00	0.00	0.00	0.25	0.00	90
39	0.00	0.00	0.00	0.17	0.00	75
40	0.00	0.00	0.00	0.10	0.00	145
41	0.00	0.00	0.00	0.33	0.00	84
42	0.00	0.00	0.00	0.00	0.00	84
43	0.10	0.10	0.00	0.40	0.98	1027
44	0.10	0.10	0.00	0.00	0.94	1127
45	0.00	0.10	0.00	0.40	0.05	160
46	0.10	0.00	0.00	0.40	1.03	999
47	0.14	0.00	0.00	0.43	1.08	1116
48	0.17	0.00	0.00	0.42	1.11	958
49	0.17	0.00	0.00	0.21	0.96	994
50	0.20	0.00	0.00	0.30	1.00	1102
51	0.00	0.00	1.00	0.00	0.92	1301
52	0.00	0.00	0.50	0.25	1.21	1242
53	0.00	0.00	0.67	0.17	1.12	1256
54	0.00	0.00	0.75	0.13	1.06	1304
55	0.00	0.00	0.80	0.10	0.97	1261
56	0.00	0.00	0.33	0.33	1.27	1209
57	0.00	0.00	0.25	0.38	1.31	1234
58	0.00	0.00	0.20	0.40	1.33	1172
59	0.25	0.13	0.00	0.25	1.20	963
60	0.25	0.00	0.00	0.25	1.15	915
61	0.00	0.14	0.00	0.29	0.68	292
62	0.14	0.14	0.00	0.00	1.17	918
63	0.00	0.00	0.00	0.40	0.16	25
64	0.00	0.00	0.20	0.00	1.16	822
control					1.00 (±0.02)	1000 (± 230)

Abbreviations: DOPC (1,2-dioleoyl-*sn*-glycero-3-phosphocholine); DOPS (1,2-dioleoyl-*sn*-glycero-3-phospho-L-serine); EDTA (Ethylenediaminetetraacetic acid); DDM (n-Dodecyl-β-D-Maltopyranoside); PEG (polyethyleneglycol); BSA (bovine serum albumin); DMSO (dimethylsulfoxide); GDN (Glyco-Diosgenin); MNG (Lauryl Maltose Neopentyl Glycol); T323 (n-Tridecyl-β-D-Maltopyranoside); B310 (Big Chap deoxy); T315 (n-Tetradecyl-β-D-Maltopyranoside); GPCR (g-protein coupled receptor).

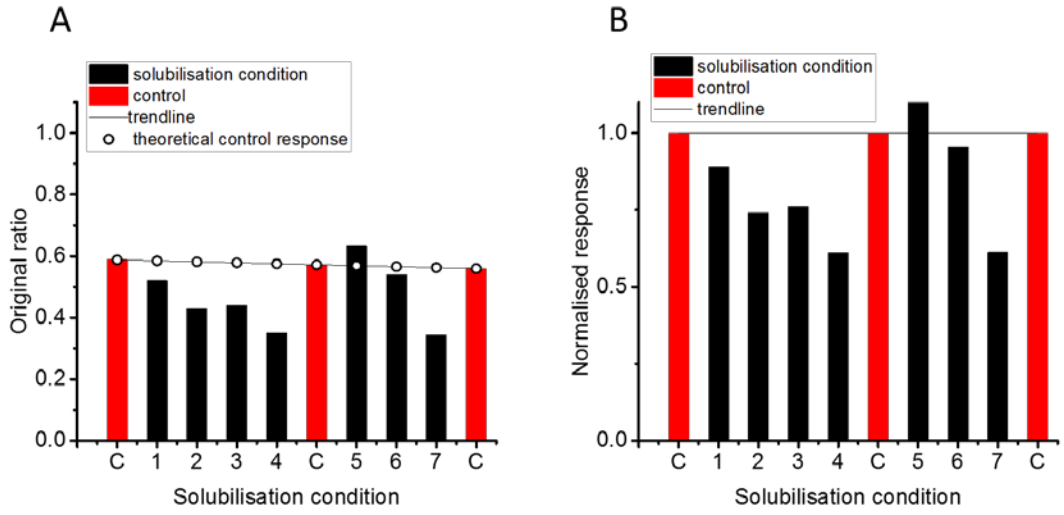
Supplementary table 7.

Selection of buffers suitable for solubilisation of both CCR5 and CXCR4 receptors. Buffer ID, buffer composition, salt, additive 1 and 2, pH for all buffers is 7.0.

Buffer ID	BUFFER	SALT	ADDITIVE 1	ADDITIVE 2
9	100 mM HEPES	100 mM Ammonium sulfate	/	10% glycerol
10	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 400	10% glycerol
12	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 4000	10% glycerol
13	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 6000	10% glycerol
16	100 mM HEPES	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% glycerol
17	100 mM TRIS hydrochloride	100 mM Sodium Chloride	1 M Ammonium sulfate	10% glycerol
19	100 mM TRIS hydrochloride	100 mM Sodium Chloride	15% PEG 1500	10% glycerol
24	100 mM TRIS hydrochloride	100 mM Sodium Chloride	1M Magnesium sulfate hydrate	10% glycerol
25	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	/	10% glycerol
26	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 400	10% glycerol
27	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 1500	10% glycerol
28	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% PEG 4000	10% glycerol
32	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% glycerol
42	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 400	10% sucrose
44	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	10% PEG 4000	10% sucrose
48	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% sucrose
49	100 mM HEPES	100 mM Sodium Chloride	1 M Ammonium sulfate	10% sucrose
56	100 mM HEPES	100 mM Sodium Chloride	1M Magnesium sulfate hydrate	10% sucrose
57	100 mM HEPES	100 mM Ammonium sulfate	/	10% sucrose
58	100 mM HEPES	100 mM Ammonium sulfate	15% PEG 400	10% sucrose
60	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 4000	10% sucrose
61	100 mM HEPES	100 mM Ammonium sulfate	10% PEG 6000	10% sucrose
64	100 mM HEPES	100 mM Ammonium sulfate	1M Magnesium sulfate hydrate	10% sucrose
80	100 mM TRIS hydrochloride	100 mM Potassium phosphate monobasic	15% PEG 1500	10% glycerol

81	100 mM TRIS hydrochloride	100 mM Potassium phosphate monobasic	15% PEG 4000	10% glycerol
84	100 mM TRIS hydrochloride	100 mM Sodium citrate tribasic dihydrate	15% PEG 1500	10% glycerol
85	100 mM TRIS hydrochloride	100 mM Sodium citrate tribasic dihydrate	15% PEG 4000	10% glycerol
88	100 mM TRIS hydrochloride	100 mM Lithium sulfate monohydrate	15% PEG 1500	10% glycerol
89	100 mM TRIS hydrochloride	100 mM Lithium sulfate monohydrate	15% PEG 4000	10% glycerol
92	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 4000	10% glycerol
99	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 1500	/
100	100 mM TRIS hydrochloride	100 mM Ammonium sulfate	15% PEG 4000	/

Supplementary Figure 1



Supplementary Figure 1: Normalisation method for the solubilisation screen results. A. Bars represent antibody response/capture level ratio. Control compound was injected at the beginning, end and during the screen and is represented by red bars. Ratio responses for screening solubilisation conditions are represented by black bars. For control data, exponential trend line fit is used to calculate theoretical control response for each data point used for solubilisation condition screen. Data points for each solubilisation condition are then normalised for theoretical control value. B. Normalised data. All values are now normalised for controls.